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1160 W. Orange Grove Ave., Arcadia, California, U.S.A. 91006

NOTES ON EACLES PENELOPE (SATURNIIDAE)

BRIAN O. C. GARDINER

18, Chesterton Hall Crescent, Cambridge, England.

The larva of the Neotropical moth *Eacles penelope* (Cramer) has been figured and described previously, (Burmeister, 1879). Packard (1905) gives a copy of Burmeister's plate. The coloring of the figure of the larva appears very dim and faded when compared against the living specimens which have very bright and vivid coloring. According to Packard it lives on Melastomeae and Guava (*Psidium pomiferum*) one of the Myrtaceae. As the result of being sent eggs of this species, I have been able to rear it, and make some further observations on its habits and life-history.

On 30. IX. 1963 about 400 ova were received from Sr. Fritz Plaumann of Nova Teutonia, Santa Catarina, Brazil. Although these had been sent by air-mail they had been in transit for over two weeks; most had hatched *en route;* the few survivors appeared rather weak. They were at once put into a small glass-topped metal tin of 3 inches diameter, containing a wet filter paper to maintain them at a high humidity. They were offered a choice of Laburnum (*Laburnum anagyroides*), Privet (*Ligustrum ovalifolium*), Walnut (*Juglans regia*), and Beech (*Fagus sylvatica).* All these leaves were nibbled, but the larvae finally settled on Beech. They were maintained on this until the end of the penultimate instar, when the supply failed. Evergreen oak (*Quercus ilex*) was offered and accepted throughout the final instar. Privet which was also offered was firmly refused. When fully grown the larvae left the food and started wandering. They were then removed to a large tin containing moist peat and they burrowed into this to form a pupa in a pressed out cell some nine inches down. Of about fifty larvae that were still alive on receipt, about fifteen actually started to feed, one or two died at each moult and only 3 pupae were obtained. It is con-

sidered that the larvae which failed to start feeding did so because they were already weak from starvation rather than the possible unsuitability of the food. The larvae were reared at 20-25°C and were subjected to British daylight conditions from September thro December, but had erratic artificial light during the evening while the stock was being attended to. Under these conditions the pupae entered diapause and the moths did not eclose for six months.

The duration in days of the six instars is given below. To obtain the figure for the final instar an estimate of 6 days between entering the soil and pupation has been allowed. This is a figure compatible with my experience of other underground pupating species that do not hibernate (or diapause) as pre-pupae.

1st – 11; 2nd – 10; 3rd – 10; 4th – 8; 5th – 15; 6th – 31. Total – 85. Pupal duration 24 weeks.

A total life-cycle of 9 months is clearly incompatible with normal feral conditions. Other species bred contemporaneously, such as *Dirphiopsis eumedide* (Stoll) and *Automeris beckeri* (Herrich-Schäffer) proved to have a six-month life-cycle. No explanation can be offered for this, it being one of the few Neotropical species bred in England that has had an unusual life-cycle period. It may well be that this species has a facultative light-controlled diapause and is much more critical concerning its requirements than are the species of various other Neotropical genera. One has only to study the enormous range of latitude over which both this species and *E. imperialis* (Druce) range (Packard, 1905; Draudt, 1930) to realise that they must have varying diapause requirements in differing parts of their range. From the Atlantic States *imperialis* has a pupal period of nine or ten months (Crotch, 1956) whereas from Panama, bred contemporary with *penelope,* the pupal period was two months.

THE OVA – Like other Citheroninae, very large; in form, eliptical, with a marked central, angular, ridge, flat on base, indented inwards on top. Maximum diameter 3.9 mm; minimum, 3.2 mm; height 2.0 mm. The larvae being mainly hatched on arrival, the color was not observed, but in those unhatched, the larvae were clearly visible, curled up around the equatorial plane, thro the translucent golden colored shells.

THE LARVA – Due to pressure of other work it was not possible to keep accurate details of all the larval stages. Fig. 1, however gives a better idea of the fullgrown larva than can any description. Although only a few larvae were available it was noted that they appeared to prefer a solitary life.

Fig. 1. Full-grown larva of *Eacles penelope.*

Fig. 2. Adult *Eacles penelope;* Top ♀ , Lower ♂ .

THE IMAGO – The three obtained all eclosed about one hour after sunset, but did not become active in their cage until the following night. This is perhaps not surprising since during June in England there is only 2-3 hours of darkness – considerably less than would normally be experienced in Brazil. It is worth mentioning in this connection that *E. imperialis,* with ten hours of darkness, emerged at dusk and was paired within six hours.

Particularly striking was the very pungent and all-pervading odor of the meconium from the newly emerged moth. To the author it resembled the odor of onions which have just started to go rotten and have been kept in a closed container for some days. It closely resembled, but was subtly different from, the odor given off by the meconium of *Periphobia hircia* (Cramer), but was not so persistent. The latter genus has previously been commented on by Blest (1960a), but the odor from *E. penelope* does not appear to have been recorded. The adults show a specialised procryptic coloration when at rest (Blest, 1960b) and it may be that the obnoxious odor serves as protection during the dangerous period while the wings are expanding and hardening. When disturbed shortly after this, the moths flicked themselves rapidly about the floor, from right way up to upside down, finally coming to rest with legs and antennae tightly tucked to body.

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